From:	steven pedigo
To:	Ragan Broyles; Steve Mason
Cc:	Chris Piehler LA DEQ; chris.viator@dps.la.gov; ldoiron@ibervilleparish.com; quincy.l.davis@uscg.mil; victoria.a.saxon@uscg.mil; Kyle Jellison NOAA assistant
Subject:	FW: OSEI response to your email Thursday afternoon 1 24 13
Date:	Friday, January 25, 2013 8:32:25 PM
Attachments:	TYPES OF BIOREMEDIATION THREE MODES FINAL-2 SRP .pdf OSEI RRT brochure of uses and testing of OSE II 9 12..pdf 18 Toxicity test with 4 2012 Log0.pdf Coast Guard Final white paper for BP gulf spill 6 19 10-1-1.pdf Coast Guard BP spill approval 1.doc

Dear Ragan Broyles, and Steve Mason EPA Region VI and RRT VI et all,
The approval for OSE II to be used on the Bayou Sorrel spill in Louisiana is being held up by NOAA and other members of RRT VI. The email below and its attachments is the information presented on Thursday to the FOSC, NOAA (kyle Jellison) and others. As I stated in the previous email, every step has been followed, and yet the approval is stalled. OSE II is ready for immediate deployment, and as you guys stated in the April 2012 conference call, "you cannot find a scientific reason not to use OSE II", and there is no reason not to approve and deploy immediately OSE II, the tried and trued technology of 23 years. The email below and attachments prove there is overwhelmingly reasons to utilize OSE II. I would appreciate it if you have the approval sent to me and the FOSC immediately, so the US navigable waters and the US natural resources can be protected and spared the destructive actions of a mechanical clean up. I will await your early response. It is time to move oil spill response forward!
Steven Pedigo
Chairman/CEO OSEI Corporation

PS. Mike had relayed to me, and I am assuming your office the fact that excerpts from the types of bioremediation would be included in the body of the guidance document in order to update it, and to clarify there is a third type of bioremediation, as well as citing the entire document in order for FOSC's to have all the information available to them to make the most informed decision. I am in the process of submitting some additional documents soon to the new science chair for RRT VI, or I will just submit it to your office to finalize all the information needed for RRT VI. You can see in the email below there is a need for pre approval of OSE II. I wanted to see when you thought the pre approval would be done for OSE II, since all the science committee concerns were answered as far as I know, and that is what you needed to be performed to move forward with the pre approval?

From: stevenosei@msn.com
To: keith.j.watters@uscg.mil; mike@ampol.net
CC: chris.piehler@la.gov; chris.viator@dps.la.gov; ldoiron@ibervilleparish.com; quincy.l.davis@uscg.mil; victoria.a.saxon@uscg.mil; kyle.jellison@noaa.gov; dfakouri@dfaa.us; kevin@ind-tek.us
Subject: OSEI response to your email Thursday afternoon 1 24 13
Date: Fri, 25 Jan 2013 00:37:57 -0600

Dear Kieth,
I want to thank you for allowing us to address the concerns you have raised, and giving us the time to do so. I will respond in the order of your statements, to insure I address each item.
Your first statement - that it may have increased the clean up time - I know, after 25 years of experience and over 23,600 spills cleaned up, that if OSE II is approved to clean up your spill, the clean up time will be cut in half to one third based on our experience with OSE II and Louisiana crude oil. I also believe the use of OSE II will prevent natural resource and sensitive ecosystem damages that will inevitably occur if you try to manually remove debris or attempt to collect all the oil. Important to note is that “clean up time” is relative to the time it takes to render the toxic compounds and other harmful attributes of the oil harmless. The harmful effects of oil can by mitigated with OSE II in a matter of hours.
OSE II will in fact perform a more complete clean up by removing oil from vegetation that cannot be dug up or otherwise removed, since one merely needs to spray OSE II onto the vegetation to lift the oil out of contact enabling it to run off the vegetation. If you meant by waiting a day or so the end time with mechanical clean up will have extended the final date for clean up, then you are preaching to the choir that the RRT needs to pre approve bioremediation category EA OSE II, so this time lag is

prevented.
Regarding your statement that
"We have reached out to the scientific community and certain members of the RRT and studies have shown that bioremediation is not recommended for this type of open water environment. It has been researched that bioremediation of open water spills is not considered to be appropriate or achievable because of the following two requirements. Nutrients must remain in contact with the oiled material and nutrient concentrations must be sufficient to support the maximal growth rate of the oil-degradation bacteria throughout the cleanup operation. When nutrients are added to a floating slick, they immediately disperse into the water column, essentially diluting to background levels. At such levels, rapid conversion of the hydrocarbons to biomass, CO2, and other innocuous end products would not be readily supported."
This information originally comes from the inaccurate and out of date NRT/RRT IV and RRT VI guidance documents in their regional response plans.Those inaccuracies are fully addressed in the attached document entitled: BIOREMEDIATION TECHNIQUES, CATEGORY DEFINITIONS, AND MODE OF ACTION IN MARINE AND FRESHWATER ENVIRONMENTS . This is a peer-reviewed and published paper intended to replace the NRT's guidance documents on Bioremediation that I worked on as an appointed member of RRT VI's Science Committee's subcommittee established to re-write the bioremediation section to bring their guidance docs up to current and accurate information.
They were engaged in updating their guidance documents, and the RRT VI science committee had requested that I be a part of their subcommittee for reviewing existing materials since the bioremediation categories of 1) microbe additive, 2) nutrient/fertilizer, and 3) enzyme additive (EA) were all clumped together, and misdirecting and confusing OSCs and responders by inaccurately melding all 3 categories together as though they were all the same and had the same weaknesses and strengths. The Types of Bioremediation article attached defines, first of all, that there are three types of bioremediation and shows a great contrast between category EA/OSE II and category MC/bacteria, and NA/nutrient addition.
I wrote this document and delivered it to Mike Baccigalopi, the Chairman of the RRT VI Science Committee at the time who was overseeing the project and subcommittee with the express purpose of updating the guidance document. After we had completed the work, Mike said that the key excerpts from the newly re-written document would go into the body of the guidance document so the inaccuracies could be corrected and differences could be noted and the entire document would be cited. That was right before the holidays and that work has not been completed yet.
The Types of Bioremediation article shows you that category EA (and OSE II is the only product in this category) can be used in all the scenarios designated in the bioremediation guidance document, and can be utilized on all types of oils, including heavy oils. The attached RRT VII document proves this, as it was a test of OSE II on very heavy waste oil. The old NRT guidance document states that bioremediation is not applicable for this oil, and this is true for categories MC and NA; however, it does not apply to OSE II, as you can see. In fact, the other document sent to you earlier today shows clean ups with OSE II, and testing of it, with different members of the RRT's present. It also shows NOAA officials at Mo Hang Port in South Korea being briefed on the successful demonstration of OSE II remediating heavy Bunker C oil by the South Korean Coast Guard Commandant. The Bioremediation Fact sheet issued by the NRT in 2000 has been in great need of updating, as you can see, in order to make sure FOSC's and RRT members have the most up to date and accurate information to make informed decisions when speed of accurate decision making can make the difference between a quickly cleaned up spill vs. a badly impacted environment.
The document of the OSEI associations with RRT's also shows that EPA personnel were given direct accounts of hundreds of open water clean ups, where the US Navy used OSE II to address 100% of their spills, and they reduced their cleanup costs by approximately 87%. So this shows OSE II can be used on open water. You have also seen the Saudi Arabia demonstration that shows how OSE II initial reactions work on beaches and shoreline waters; see link http://osei.us/archives/1135. Here is another open water/shoreline demonstration in Dubai as well:
https://www.dropbox.com/s/0q9bl9238qqxq2g/IMG_2325-1.MOV
We have others, including large-scale cleanups that will be on the Internet soon. A lot of the large-scale cleanups are under non-disclosure agreements right now; otherwise they would already be on the Internet. The point is, we have direct and incontrovertible evidence of OSE II's effectiveness and safety on open water.
Your email points out that nutrients have a hard time staying in contact with the oil; and this has, traditionally, been a problem with bioremediation products, until OSE II. In the three types of bioremediation you can see this link where OSE II was tested on an open mescosm test with EPA guidance and it proves that OSE II constituents actually adhere to the oil.

http://www.nbiap.vt.edu/brarg/brasym95/kavanaugh95.htm
OSE II contains certain constituents to cause molecular adhesion so that, wherever hydrocarbon-based material migrates, partitioned OSE II constituents go with it. This was shown on the Osage Indian reservation, as well, in the OSEI RRT association brochure. OSE II does not disperse into the water column, as fertilizers/nutrients tend to do. The dispersant test in our technical library performed for the US EPA shows OSE II to have produced a negative number 47, which proves OSE II has zero effectiveness as a dispersant. This negative number means OSE II causes hydrocarbons to float. See link http://osei.us/technical-library-documents pages 138-140.
The next statement in your email I will address is "*In addition, there is a surfactant listed as one of the ingredients in the product. Although a bio-surfactant, it is looked at similarly as a chemical surfactant."* If you were to do nothing on an oil spill over a very extended time, Mother Nature would try to utilize the oil as a food source. Mother Nature's own process utilizes bio surfactants, and the fact they act similarly to chemical surfactants should make no difference because this is how nature, eventually, deals with an oil spill. The concern with chemical surfactants is they are toxic to marine species. And, you're right, chemical surfactants should most definitely *not* be used on spills that happen anywhere where vegetation and life forms will come in contact with them. The attached 18 toxicity tests, several performed by the US EPA and Environment Canada prove that, no matter what ingredients are in OSE II, including bio surfactants, there is nothing harmful to marine species, wildlife, responders or vegetation. So the concern for bio surfactants, as contained in OSE II, is a proven non-issue.
The next statement I would like to address is "*I understand that you have stated that when utilizing your product it is unlikely that the oil or the product will sink."* If you look at the EPA RRT VII aquarium tests, you will see the OSE II tests show the oil floats until it thins to nothing and is remediated to CO2 and water, which proves OSE II causes even heavy waste oil to float and prevents it from contaminating secondary areas like the water column. You should also see this link http://osei.us/photoalbums/crude-oil-spill-cleanup. This is a spill of significance of over 5000 gallons of oil on a pond/lake with marsh grass, shoreline grass, sandy shoreline, and marsh grass. This shows the oil floating as the bacteria spreads out across the oil until it remediates. Once there are only remnants of the oil left, the bacteria clump up to the point you can see them. Then, once the oil is remediated, the bacteria quickly die off to background levels. This shows the oil floating until it was permanently removed from the environment, and there was no damage to the marsh grass or shoreline. By causing the oil to float, OSE II also prevents the water column's O2 level from being depleted.
The next sentence states *"This is one of the reasons for the offsite test we would have liked to conduct, however, to get a full test required for this specific environment it would take 2-4 weeks for completion*." You state that one of the reasons for the off- site test is to verify that it won't sink the oil. But, again, testing that has already been done, proves OSE II does the opposite: it causes hydraulic lift and keeps the oil on the surface, or brings it to the surface, where it can most readily be turned into CO2 and water.
All the testing has been done to show that OSE II is the most effective, fastest, safest product available to thoroughly address a spill. As you've seen from the documents we've provided: the EPA successfully used OSE II on the Osage Indian reservation; the Navy successfully used OSE II on 100's of spills over three and a half years, which as I stated, EPA officials are aware of; a successful demonstration was done on oil at the LA State Capital in front several State Senators and Chris Piehler and other professors; a number of other demonstrations in various areas of the gulf have been done during the BP spill (see links below).
Waveland Beach Mississippi marsh grass and sandy beach demonstration: http://osei.us/archives/819
Shell Beach La demo on water
http://www.youtube.com/watch?v=9BC1mn2IrXk&feature=player_embedded
Clean up on Grande Isle La cleaning up BP oil with Corexit dispersants attached
http://osei.us/archives/828
These demonstration with State officials and some with LA DEQ officials, along with:
l the tests from the EPA NCP test,
ıe recent DOI test,
ıe recent EPA RRT VII test,
ıe crude oil clean up for Texaco (see link again at http://osei.us/photoalbums/crude-oil-spill-cleanup) which is a cleanup, not a test,
ıe case studies with legal closure letters achieving the predicted end points of CO2 and water,
ıe toxicity tests that show OSE II is practically non toxic, and
deos of OSE II being handled by OSE II representatives,
all prove that OSE II is safe for responders, it is easy to implement and apply, the oil is caused to float preventing secondary or tertiary areas from becoming impacted, which protects the water column from

O2 depletion.
An off-site test would be a redundant exercise, and it would prevent the only *really effective* method from being utilized by you on this spill. And that will result in one more completely inadequate and substandard cleanup with mechanical means, while portions of the natural vegetation in the area are unnecessarily damaged. We believe the voluminous testing phase of OSE II has been completed, and the over 23,600 spill cleanups since 1989 show OSE II is way beyond the testing phase because it is being successfully applied on spills including in the Gulf, and in 40 other countries, including U.S. navigable waters, and is now fully ready to be implemented on this spill.
So we believe OSE II should be utilized, not tested again, for the 1000th time, to see if it will work again, just like it has worked in all the other tests. That point has been established.
Your next statement "*By that time we are expected to be near completion of recovering the pooled oil, and our progress with mechanical cleanup cannot be delayed while the test is completed*." The fact is, even if we had to do the test for you and it took a couple of weeks to complete, you could then utilize OSE II to finish the cleanup and end up with it cleaned up in less than half the time you have stated mechanical clean up will take; and you will have preserved the environment, which you will be unable to accomplish with mechanical cleanup. The responsible party will save a lot of time and money as well, since less equipment and labor time will be required, and the responsible party will not have to pay as much for natural resource damages.
Regarding your next statement "*It has been stated that this type of cleanup method would be most beneficial either in marsh areas, which we are not in, or when the water level resides to apply it to the land*": This statement would only be made by people who are not familiar with the proven abilities of OSE II. OSE II has and can be used almost anywhere hydrocarbon-based material is spilled, reducing the spill's impact, and limiting the time toxic hydrocarbons can impact the environment. Our large numbers of tests, demonstrations and successful cleanups have proven this.
I have also attached the White paper that we wrote for the US Coast Guard, and the Coast Guard response in which he stated in writing to the FOSC in charge of the BP spill at the time to "take action with OSE II". This is just one more reason to justify the use of OSE II on this spill.
I also received a similar letter from the Coast Guard on the Valdez spill, after OSE II cleaned up a small area of beach.
I hope that you will review this information and move ahead with utilizing OSE II, which is the safest, most efficient response method that you now have at your disposal; one that actually lives up to the standards set by the Clean Water Act by permanently *removing* the oil from the environment. I appreciate your time and consideration and look forward to your response.
Sincerely,
Steven Pedigo
Chairman/CEO OSEI Corporation

From: Keith.J.Watters@uscg.mil [mailto:Keith.J.Watters@uscg.mil]
> Sent: Thursday, January 24, 2013 4:32 PM
> To: David Fakouri; Mike Watts
> Cc: chris.piehler@la.gov; Chris Viator; Steven Pedigo; kevin@ind-tek.us; ldoiron@ibervilleparish.com; Davis, Quincy CDR; Saxon, Victoria LT; kyle.jellison@noaa.gov
> Subject: RE: Steven Pedigo shared "OSEI CEO meetings and demonstration with the State of Louisiana legislators 5 5 10" with you
>
> David,
>
> I apologize for the delay in response. We have been out of the office working on issues regarding the response. We also appreciate your time with us and the responsible party on presenting the opportunity to utilize an alternative method that may have potentially increased the time for cleanup. We have reached out to the scientific community and certain members of the RRT and studies have shown that bioremediation is not recommended for this type of open water environment. It has been researched that bioremediation of open water spills is not considered to be appropriate or achievable because of the following two requirements. Nutrients must remain in contact with the oiled material and nutrient concentrations must be sufficient to support the maximal growth rate of the oil-degradation bacteria throughout the cleanup operation. When nutrients are added to a floating slick, they

immediately disperse into the water column, essentially diluting to background levels. At such levels, rapid conversion of the hydrocarbons to biomass, CO2, and other innocuous end products would not be readily supported. In addition, there is a surfactant listed as one of the ingredients in the product. Although a bio-surfactant, it is looked at similarly as a chemical surfactant. I understand that you have stated that when utilizing your product it is unlikely that the oil or the product will sink. This is one of the reasons for the offsite test we would have liked to conduct, however, to get a full test required for this specific environment it would take 2-4 weeks for completion. By that time we are expected to be near completion of recovering the pooled oil, and our progress with mechanical cleanup cannot be delayed while the test is completed. It has been stated that this type of cleanup method would be most beneficial either in marsh areas, which we are not in, or when the water level resides to apply it to the land. Please let us know if you have any further questions.
>
> Respectfully,
> Chief Keith Watters, Response & Prevention Department Marine Safety Unit Baton Rouge Louisiana
> 6041 Crestmount Dr.
> Baton Rouge, LA 70809
> (225)298-5400 extension 235
>
> “Pride” Take Pride, in everything you do. Pride in Your Family, Your Coast Guard, Your Unit, Yourself and in your Workmanship
>
>